

EXHIBIT 5
PART 1

66548 U.S. PTO



06/13/05

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

PATENT

66548 U.S. PTO
90007586



06/13/05

In re U.S. Patent No.: 6,679,336

Inventors: Jeffrey D. Musselwhite
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Issued: January 20, 2004

Atty. Docket No.: 13137.0230.RXUS00

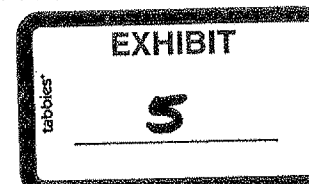
For: MULTI-PURPOSE FLOAT
EQUIPMENT AND METHOD

REQUEST FOR *EX PARTE* REEXAMINATION UNDER 37 C.F.R. § 1.510

Mail Stop Ex Parte Reexamination

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

1. This is a request for *ex parte* reexamination under 37 C.F.R. § 1.510 of U.S. Patent No. 6,679,336, issued January 20, 2004. This reexamination request is being submitted by a third party requester.
2. The name and address of the person requesting reexamination is:
Janelle D. Waack
HOWREY LLP
750 Bering Drive
Houston, TX 77057
3. The Commissioner is authorized to charge the fee specified in 37 C.F.R. § 1.20(c)(1) to Deposit Account No. 01-2508, Order No. 13137.0230.RXUS00.
4. Any additional fees required under 37 C.F.R. § 1.16-1.21 should be charged, and any refund should be made, to Deposit Account No. 01-2508, Order No. 13137.0230.RXUS00.
5. A copy of the patent to be reexamined, U.S. Patent No. 6,679,336, in double column format on one side of each sheet is enclosed (Ex. A) as required under 37 C.F.R. § 1.510(b)(4).



WDE 0013151

6. Reexamination of claims 1-7, 14-18 and 33-54 is requested. Requester acknowledges that if this request for reexamination is granted, all claims will be reexamined.
7. A copy of every patent and printed publication relied upon is submitted herewith, including a listing thereof on Form PTO-1449.
8. An English translation of all necessary and pertinent foreign language patents and printed publications is enclosed herewith.
9. The attached detailed request includes at least the following items:
 - a. A statement identifying each substantial new question of patentability based on prior patents and printed publications (37 C.F.R. § 1.510(b)(1)).
 - b. An identification of every claim for which reexamination is requested, and a detailed explanation of the pertinency and manner of applying the cited art to every claim for which reexamination is requested (37 C.F.R. § 1.510(b)(2)).
10. Requester certifies that a copy of this request for reexamination has been served on the owner of U.S. Patent No. 6,679,336 on the date stated below as provided in 37 C.F.R. § 1.33(c). The names and addresses of the parties served are as follows:

Legal Department ← *NOT OF RECORD*
DAVIS-LYNCH, INC.
2005 Garden Road
Pearland, TX 77581

Taras P. Bemko ← *ADDRESS CHANGED*
THE MATTHEWS FIRM
2000 Bering Drive, Suite 700
Houston, TX 77057

11. Correspondence Address:
Please direct all correspondence concerning this request for reexamination to **Customer No. 23369, Howrey LLP**. Any telephone calls should be directed to the undersigned at (713) 787-1686.
12. U.S. Patent No. 6,679,336 is currently the subject of the following concurrent proceedings:
 - a. Co-pending Reexamination Request filed December 21, 2004, on behalf of the Assignee Davis Lynch, Inc., and designated U.S. Patent Application Serial No. 90/007,350.
 - b. Recently dismissed litigation styled *Davis-Lynch, Inc. v. Weatherford International, Inc.*, Civil Action No. 6:04-CV-54, before Hon. Michael H. Schneider in the United States District Court for the Eastern District of Texas, Tyler Division.

13. Requestor further notes that a request for reexamination of related U.S. Patent No. 6,401,824 (Ex. B) is being filed concurrently with this request, and that U.S. Patent No. 6,401,824 is also currently the subject of the following concurrent proceedings:
 - a. Co-Pending Reexamination Request filed December 21, 2004, on behalf of the Assignee Davis Lynch, Inc., and designed U.S. Patent Application Serial No. 90/007,349.
 - b. Recently dismissed litigation styled *Davis-Lynch, Inc. v. Weatherford International Inc.*, Civil Action No. 6:04-CV-54, before Hon. Michael Schneider in the United States District Court for the Eastern District of Texas, Tyler Division.

REQUESTER'S STATEMENT

Reexamination of U.S. Patent No. 6,679,336 ("the '336 patent"; Ex. A) is requested under 35 U.S.C. §§ 302–307. The patent has not expired and remains in effect.

I. INTRODUCTION

A. The Claimed Invention of the '336 Patent

Claims 1-7, 14-18, and 33-54 of the '336 patent are generally directed to an oil well completion tool used for lowering a tubular string from a surface position into a wellbore. The tool is generally attached to a lower portion of the tubular string and comprises: (1) an outer tubular member with an open lower end capable of receiving wellbore fluid into the tubular string as it is lowered into the wellbore; (2) one or more flapper valve(s) which, during lowering, are held in the open position, thereby allowing wellbore fluid to flow into the tubular string; and (3) an inner tubular member initially secured in a first position such that it holds the flapper valve(s) open during lowering, and thereafter released to a second position so as to allow the flapper valve(s) to close and thereby to prevent further fluid flow into the tubular string.

B. The Prosecution History of the '336 Patent

U.S. Patent Application No. 09/982,618 ("the '618 application"), which subsequently issued as the '336 patent, was filed on October 17, 2001. The '618 application was filed as a continuation-in-part of U.S. Patent Application No. 09/524,117 ("the '117 application"), which was filed on March 13, 2000, and subsequently issued as U.S. Patent No. 6,401,824 ("the '824 patent"; Ex. B).

Parent '117 application ('824 patent)

The parent '117 application (Ex. C-1) originally contained 10 claims all directed to a well completion tool comprising the components listed above, but also including a series of upwardly and downwardly facing fluid jets formed into the outer tubular member. The inner tubular member (described above) functioned to selectively open and close the upwardly and downwardly facing fluid jets. The specification of the '117 application emphasized the desirability of just such a fluid jet assembly in the following excerpt:

It is apparent from the foregoing that it would be highly desirable in optimizing the run in and cementing operation that a float shoe or float collar having jets directed in a downward direction during run in, and then having jets directed only in an upward direction during the cementing operation, would make such an operation much safer, more economical, and more efficient. The float shoe/collar apparatus of the present invention provides just such a reliable, safe and economical system.

(Ex. C-1 ('117 application) at 4, ll. 13-18.)

Claims 1 through 10 were initially rejected by the Examiner as unpatentable under 35 U.S.C. §§ 102, 103, and 112. In responding to the claim rejections under §§ 102 and 103, Applicants relied heavily on the claimed features of the upwardly facing jets and the downwardly facing jets. Applicants argued that certain prior art cited by the Examiner "has no relationship to the present invention and has neither upwardly facing jets nor downwardly facing jets." Amendment, dated Nov. 2, 2001, pg. 6 (Ex. C-2). Applicants further argued that other prior art "in no way contemplate[s] either the upwardly facing jets or the downwardly facing jets being opened while the other one is closed." *Id.* at 7.

Prior to another Office Action, a personal interview was held between the Examiner and an attorney for the Applicants. Based upon recommendations from the Examiner received during the interview, the Applicants submitted a Supplemental Amendment further limiting the original claims. As before, Applicants emphasized that certain prior art "does not have ... downwardly facing fluid jet openings as required by amended claim 1" and "downwardly angled jets as per amended claims 2-10." Supplemental Amendment, dated Feb. 14, 2002, pg. 11 (Ex. C-3).

Also included in the Supplemental Amendment, but not separately addressed by the Applicants, was a series of new claims. These new claims, while directed to a well completion tool nearly identical to that of the original claims, omitted any reference to the use of fluid jets. Following this amendment, and without any comment from the Examiner on the patentability of the newly added claims, the '117 application was allowed. The claims omitting any reference to the use of fluid jets issued as claims 11 through 18.

Subsequently, several months after the issuance of the '824 patent, the Applicants proposed a Certificate of Correction that included the proposed addition of the following sentence to the '824 patent specification: "As a result, the downward movement of the float shoe

tube [inner tubular member] 27, *with or without jets*, switches between a first mode of washing rock cuttings upwardly in the borehole annulus to a second mode of cement distribution in the borehole annulus.” (See Request for Certificate of Correction, dated Sept. 4, 2002, pg. 4 (emphasis added) (Ex. C-4). The Examiner denied this proposed “correction” and declined to add the sentence in part because it “propose[d] new matter with the addition of the term ‘with or without jets.’” Re: Request For Certificate of Correction, dated November 19, 2002 (Ex. C-5).

Continuation-in-part ‘618 application (‘336 patent)

The ‘618 application (Ex. D-1) was filed on October 17, 2001, as a continuation-in-part of the ‘117 application. The specification of the ‘618 application again emphasized the desirability of upward and downward fluid jets as elements of the disclosed device:

The inventors have conceived that it would be desirable to optimize both the run in and the cementing operation with a float shoe or float collar that has jets directed downwardly during the run in but then has jets directed in an upward direction during the cementing operation.

(Ex. D-1 at 3.) Twenty-eight (28) of the original claims were directed to a well completion tool with jets. However, eighteen (18) of the original claims were directed to a well completion tool *without jets*.

On December 13, 2001, Applicants filed a Preliminary Amendment and Petition to Make Special to expedite examination on the ground of alleged infringement by a tool *without jets* depicted in a drawing dated February 2001.

In the Petition to Make Special, Applicants made the following statement to the PTO with regard to the thorough search of prior art required under MPEP § 708.02(II)(C):

- (1) “[T]here is no prior art that shows two simultaneously operable flapper valves that may be simultaneously converted from the fill mode to the back pressure mode.” (Ex. D-2 (Petition to Make Special) at 10 (emphasis added).)

The PTO subsequently granted the Petition to Make Special and expedited examination of the ‘618 application.

The Preliminary Amendment proposed to add twenty-one (21) new claims, all *without jets*. After a restriction requirement, the elected claims were rejected as unpatentable under 35 U.S.C. §§ 102 and/or 112, and rejected claim 47 under the judicially created doctrine of

obviousness-type double patenting as unpatentable over claim 11 of the '824 patent. (See Ex. D-3 (Office Action dated August 13, 2002).)

In response, Applicants submitted a first Amendment deleting claim 41 and further limiting other claims, and enclosed a Terminal Disclaimer to overcome the double patenting rejection for claim 47. In responding to the claim rejections under § 102, Applicants argued that the claimed invention was novel and patentable because the Examiner-cited prior art:

- (2) "does not *insulate the one or more valves* or valve seats from fluid flow . . . [or] seal off the one or more valves or valve seats from fluid flow." (Ex. D-4 (First Amendment) at 8-9.)
- (3) does not "disclose[] the particular *mounting of the drop member adjacent to the moveable member* . . . [and] [i]nstead . . . teaches that the drop ball is dropped from the surface." (*Id.* at 9, 11.)
- (4) "does not fairly teach releasing a drop member . . ." (*Id.* at 9-10.)
- (5) "does not teach *pumping into the [tubular] string through one or more down jets while installing the tubular string* . . ." (*Id.* at 9.)
- (6) "does not disclose *blocking down jets to prevent cement flow* therethrough." (*Id.* at 9.)
- (7) "does not have any mechanisms for controlling fluid flow for *washing through down jets and then for blocking the fluid flow for down jets while opening the up jets* to direct cement therethrough . . ." (*Id.* at 10-11.)
- (8) "does not disclose a *moveable member* that is moveable from a first position to a second position *one time only* [as opposed to] moveable more than one time . . . [or] repeatedly moveable . . ." (*Id.* at 10-11.)

In the second office action, the Examiner rejected claims 6-10, 12-21, 36-40, and 42-46 as unpatentable under 35 U.S.C. §§ 102 and/or 112 and in view of new ground(s) of rejection. In response, Applicants submitted a second Amendment further limiting the claims. In responding to the claim rejections under § 102, Applicants argued that the claimed invention was novel and patentable because the additional Examiner-cited prior art:

- (9) "does not reduce surge pressure while running the tool downhole. . . . [which] is achieved with the *large bottom opening* . . ." (Ex. D-6 (Second Amendment) at 20; *see also id.* at 23 (explaining that an "open . . . lower end allow[s] fluid flow into the bore or out of the bore").)
- (10) "in no way suggests that *only a two position movement* can successfully implement the device . . ." (*Id.* at 21.)
- (11) "does not teach that a *passageway can be opened or a valve uncovered for fluid flow by moving an 'inner' tubular from a first position to a second position.*" (*Id.*)

- (12) “does not disclose, teach, nor even suggest the use of *up jets or down jets*.” (*Id.* at 21-23.)
- (13) does not “disclose[] the particular *mounting of the drop member adjacent to the moveable member* . . . [and] [i]nstead . . . teaches that the drop ball is dropped from the surface . . . after the casing string has been lowered to a desired depth . . .” (*Id.* at 22-23.)
- (14) “does not teach or disclose *sealing off [a] valve* . . . [a]lthough Freeman [‘174] Figs. 1 and 2[] seem to show that inner tubular member 104 [sic; 140] could shield valve 104 and seat 94 . . .” (*Id.* at 23.)

Also included in the second Amendment—but not separately addressed by Applicants with regard to the relevant prior art—were new claims, including a new independent claim identified as claim 68.¹ Claim 68, while directed to well equipment nearly identical to that of the original claims, included only the following elements: a **valve**, a **moveable member** operable for activating the valve to control fluid flow through a tubular string, and a **drop member mounted adjacent** to the moveable member and operable in response to fluid pressure for engaging the moveable member. Thus claim 68 omitted any reference to the use of two simultaneously operable flapper valves; sealing off or insulating valves from fluid flow; up jets, down jets, or passageways; open lower end; one-time-only movement of the moveable member; and/or two-position-only movement of the moveable member. Following this amendment, and without any comment from the Examiner on the patentability of the newly added claims, the ‘618 application was allowed, and the ‘336 patent issued.

Concurrent with the second Amendment, Applicants disclosed a drawing identified as Assembly for Sub-Sea Re-entry Cement Float Shoe with TV Camera for XO-07238, Baker Drawing No. 02-35733-00, dated January 23, 1976 (“the Baker reference”). Despite apparent overlap between features of the Baker reference and elements of Applicants’ claimed device—including but not limited to (1) an outer tubular member with an open lower end, (2) two flapper valves held open during lowering, and (3) an inner tubular member, initially secured in a first position to hold the flapper valves open during lowering, and subsequently releasable for movement to a second position to allow the flapper valves to close—Applicants characterized the Baker reference as “not analogous art.” Applicants further asserted, “[T]his reference does not teach, disclose, suggest or even contemplate the Applicants’ device.” (*Id.*) Following this

¹ Claim 68 of the ‘618 application later issued without modification as claim 54 of the ‘336 patent.

disclosure, and without any comment from the Examiner on the patentability of any of the claims in view thereof, the '618 application was allowed, and the '336 patent issued.

II. SUMMARY OF THE GROUNDS FOR THIS REQUEST

Claims 1-7, 14-18, and 33-54 of the '336 patent should be cancelled in view of significant prior art references, most of which were not considered during the original examination. The completion tool and method disclosed in the '336 patent employ standard configurations that have been in use for decades. No fewer than eighteen prior art references disclose elements of the device and method claimed in the non-jet claims of the '336 patent, either alone or in combination. Several of these references date back ten years or more. Only one of these references was before the Examiner in the original examination. Accordingly, each prior art reference enclosed herein, either alone or in combination, presents substantial new questions of patentability for claims 1-7, 14-18, and 33-54 of the '336 patent.

Moreover, at a preliminary injunction stage of litigation, the U.S. District Court for the Eastern District of Texas found that many of these references² raised substantial questions concerning the validity of the '336 patent with regard to claims 51 and 54, the two claims asserted by the Patentee for the purpose of obtaining a preliminary injunction. The Court denied the Patentee's motion for preliminary injunction because "[a]t this preliminary stage, each piece of prior art at least appears to read on the asserted claims," and because Patentee "failed to show a likelihood of success on the validity of claims 51 and 54." (Ex. E (Order Denying Motion for Preliminary Injunction) at 3-4.) After this adverse decision by the district court, the Patentee submitted its request for reexamination of the '336 patent.

III. CLAIMS FOR WHICH REEXAMINATION IS REQUESTED

Reexamination of claims 1-7, 14-18, and 33-54 of the '336 patent is requested in view of the references and combinations of references discussed herein, each of which independently presents a substantial new question of patentability such that reexamination is appropriate.

² The references submitted in opposition to the preliminary injunction motion included Prior Art References (3) through (7) of this reexamination request.

IV. CLAIM CONSTRUCTION ISSUES

In order to properly compare claims 1-7, 14-18, and 33-54 of the '336 patent to the prior art references discussed herein, it is first necessary to preliminarily construe some of the claim terms and phrases appearing in the claims at issue.

A. Claim Preambles

The Patentee, in its reexamination request, repeatedly refers to the alleged "use" and "purpose" of the claimed devices to distinguish the claims at issue from the prior art. The alleged "use" and "purpose" of the claimed devices are contained solely in the preambles of claims 1-7, 14-18, and 33-54. The Patentee's reliance on the preamble as a limiting claim element is improper.

The preamble of a claim may be regarded as a "claim element" and therefore limiting if it "recites essential structure or steps, or if it is necessary to give 'life, meaning, and vitality' to the claim." *Intirtool, Ltd. v. Texar Corp.*, 369 F.3d 1289, 1295 (Fed. Cir. 2004) (quotation marks omitted) (quoting *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1305 (Fed. Cir. 1999)). However, the preamble is generally *not limiting* if the body of the claim "describes a structurally complete invention such that deletion of the preamble phrase does not affect the structure or steps of the claimed invention." *Id.* (quotation marks omitted) (quoting *Catalina Mktg. Int'l, Inc. v. Coolsavings.com, Inc.*, 289 F.3d 801, 808-09 (Fed. Cir. 2002)). Thus, where:

the body of the claim fully and intrinsically sets forth the complete invention, including all of its limitations, and the preamble offers no distinct definition of any of the claimed invention's limitations, *but rather merely states, for example, the purpose or intended use of the invention, then the preamble is of no significance to claim construction because it cannot be said to constitute or explain a claim limitation.*

Pitney Bowes, 182 F.3d at 1305 (emphasis added).

The respective preambles of the following independent claims of the '336 patent, with relevant portions highlighted, are reproduced as follows:

Claim 1: "Float collar/shoe equipment for use in lowering a tubular string into a wellbore, said equipment comprising: . . ."

Claim 14: "A method for completing a well operable *for use in lowering* a tubular string into a wellbore, said tubular string having an inside and an outside external to said inside, said method comprising:"

Claim 33: "A *float equipment assembly for lowering* a tubular string from a surface position into a wellbore, said assembly comprising:"

Claim 43: "A method *for running* a tubular string from a surface position into a wellbore and *for cementing* said tubular string within said wellbore, said method comprising:"

Claim 54: "Well equipment operable *for use in lowering* a tubular string into a wellbore, said well equipment comprising:"

Each one of the preambles above provides no more than an intended use or purpose for the respective inventions—for example, an apparatus "for use in lowering a tubular string," a device intended for use as "float equipment," or a method "for running . . . into a wellbore and for cementing [a] tubular string." The "bodies" of those claims, independently of their respective preambles, provide "structurally complete inventions." *See Rowe v. Dror*, 112 F.3d 473, 478 (Fed. Cir. 1997). Accordingly, the preambles above are *not claim limitations and therefore should not be considered* by the Examiner in comparing claims 1-7, 14-18, and 33-54 of the '336 patent to the prior art references discussed herein.

B. "Tubular String"

The Patentee, in its reexamination request, repeatedly refers to the claimed devices as being attached to "casing," and argues that some of the prior art references discussed herein are not attached to "casing" and therefore are non-analogous art. The term "casing" does not appear in any of claims 1-7, 14-18, or 33-54 of the '336 patent. Rather, the claims refer to a "tubular string."

To one of ordinary skill in the art, the term "tubular string" has an ordinary and accustomed meaning. Giving this term its ordinary and accustomed meaning based on the plain language of the claims, the "tubular string" limitation refers to any string of tubing, including, but not limited to, casing.

Because the language is clear on its face, the disputed term maintains its "ordinary and accustomed" meaning as understood by one of ordinary skill in the art. *Tate Access Floors, Inc.*

v. Maxcess Techs., Inc., 222 F.3d 958, 965 (Fed. Cir. 2000). “Dictionaries, encyclopedias and treatises are particularly useful resources to assist the court in determining the ordinary and customary meaning of claim terms.” *Texas Digital Sys., Inc. v. Telegenix, Inc.*, 308 F.3d 1193, 1202 (Fed. Cir. 2002).

A standard oilfield dictionary refers to the term “tubular” as a “tubular good” and defines that term as “[a]ny kind of pipe Oil-field tubular goods include tubing, casing, drill pipe, and line pipe.” A DICTIONARY OF PETROLEUM TERMS 115 (2nd ed. 1979) (Ex. F). An oilfield treatise carries the exact same definition. See A PRIMER OF OILWELL DRILLING 191 (6th ed. 2001) (Ex. G). Still another oilfield dictionary reiterates this definition, stating that the term “tubular goods” includes “[w]ell casing, tubing, drillpipe, drill collars, and line pipe.” HANDBOOK OF OIL INDUSTRY TERMS & PHRASES 290 (5th ed., 1994) (Ex. H). Accordingly, based on the ordinary and accustomed meaning of the term “tubular string” as understood by one of ordinary skill in the art (as evidenced by the dictionary and treatise quotations above), the proper construction of the term is any string of tubing, including, but not limited to, a string of casing.

The Patentee’s apparent construction of the term “tubular string” as only including casing is self-serving and an improper application of the canons of claim construction. Patent owners are free to use claim language of their choosing, but they must live with the language they choose. The U.S. Court of Appeals for the Federal Circuit has noted this, stating:

If [the patent owner], who was responsible for drafting and prosecuting the patent, intended something different, it could have prevented this result through clearer drafting. . . . It would not be appropriate for us now to interpret the claim differently just to cure a drafting error made by [the patent owner]. That would unduly interfere with the function of claims in putting competitors on notice of the scope of the claimed invention.

Hoganas AB v. Dresser Indus., Inc., 9 F.3d 948, 951 (Fed. Cir. 1993).

As stated above, patent owners are free to use claim language of their choosing--the Patentee chose the term “tubular string.” To one of ordinary skill in the art, that term has an ordinary and accustomed meaning. Giving the term its ordinary and accustomed meaning, as evidenced by the dictionary and treatise quotations above, the “tubular string” limitation is properly construed as any string of tubing, including, but not limited to, a string of casing.

V. CLAIMS FOR WHICH REEXAMINATION IS REQUESTED

Reexamination of claims 1-7, 14-18, and 33-54 of the '336 patent is requested in view of the following references and combinations of references, each of which independently presents a substantial new question of patentability such that reexamination is appropriate.

1. **Prior Art Reference (1)**—"Head et al." (Ex. J): P. Head et al., *Slimwells Without the Pain*, Paper SPE/IADC 52795 (1999)—either alone or in combination with one or more of the following references.
2. **Prior Art Reference (2)**—"Head et al." (Ex. K): Phil Head et al., *Slimwell Concept—Innovative Coiled Tubing Completion Technology*, Paper SPE 54492 (1999)—either alone or in combination with one or more of the preceding or following references.
3. **Prior Art Reference (3)**—"Baker" (Ex. L): "Assembly for Flapper Valve Insert for Sub-Sea Re-entry Cement Float Shoe with TV Camera for XO-07238," Baker Product No. 100-02, Baker Commodity No. 02-33733-00, Baker Drawing No. 233-733 (dated January 23, 1976), either alone or in combination with one or more of the preceding or subsequent references.
4. **Prior Art Reference (4)**—"BP" (Ex. M): "Proposed 24 ½ O.D. Stab-In Circulating Flexifill with Double Flapper Valve & Captive Ball (F/BP)" (dated June 25, 1984), either alone or in combination with one or more of the preceding or subsequent references.
5. **Prior Art Reference (5)**—"Taylor Made" (Ex. N): "3.500 O.D. Dual Flapper Valve" assembly including sub-assembly drawings entitled "Top Sub," "Upper Flapper Body," "Lower Flapper Body," "Flapper Assembly," "Bottom Sub," "Pin," "Flapper Pin Housing," "Shear Body," "Trap Body," "Sleeve," "Shear Ring," "Lock Ring," "Flapper Valve," and "Dual Flapper Valve," (Taylor Made Oil Tools, Inc.; dated July 7, 1997) either alone or in combination with one or more of the preceding or subsequent references.

6. **Prior Art Reference (6)**—"HPI" (Ex. O): "2 ½" Cement Retainer Assembly," HPI High Pressure Integrity, Inc., Part No. 351-250-1 (dated September 8, 1994), either alone or further in view of one or more of the preceding or subsequent references.
7. **Prior Art Reference (7)**—"Trico" (Ex. P): "B & W Orifice Shoes and Collars," Trico Industries, Inc., Product Nos. FZ25 and FZ55, advertisement published in the 1990-91 *Composite Catalog of Oil Field Equipment and Services* (1990), either alone or further in view of one or more of the preceding or subsequent references.
8. **Prior Art Reference (8)**—"Holden" (Ex. Q): U.S. Patent No. 3,148,731 issued to Holden on September 15, 1964, either alone or in view of any of references (1) through (7) above.
9. **Prior Art Reference (9)**—"Moyes" (Ex. R): U.S. Patent No. 6,125,930 issued to Moyes on October 3, 2000 (35 U.S.C. § 102(e) priority date of January 26, 1998), in view of any of references (1) through (7) above.
10. **Prior Art Reference (10)**—"Leeb et al." (Ex. S): U.S. Patent No. 6,296,059 issued to Leeb et al., on October 2, 2001 (35 U.S.C. § 102(e) priority date of March 23, 1999), either alone or in view of any of references (1) through (7) above.
11. **Prior Art Reference (11)**—"Allamon et al." (Ex. T): U.S. Patent No. 6,390,200 issued to Allamon et al., on May 21, 2002 (35 U.S.C. § 102(e) priority date of February 4, 2000), either alone or in view of any of references (1) through (7) above.
12. **Prior Art Reference (12)**—"Allamon et al." (Ex. U): U.S. Patent No. 6,467,546 issued to Allamon et al., on October 22, 2002 (35 U.S.C. § 102(e) priority date of February 4, 2000), either alone or in view of any of references (1) through (7) above.
13. **Prior Art Reference (13)**—"Watkins et al." (Ex. V): U.S. Patent No. 3,799,204 issued to Watkins et al., on March 26, 1974, in view of any of references (1) through (7) above.
14. **Prior Art Reference (14)**—"Crist et al." (Ex. W): U.S. Patent No. 4,709,760 issued to Crist et al., on December 1, 1987, in view of any of references (1) through (7) above.

15 Prior Art Reference (15)—“Murray” (Ex. X): U.S. Patent No. 4,967,841 issued to Murray on November 6, 1990, in view of any of references (1) through (7) above.

16. Prior Art Reference (16)—“Coone et al.” (Ex. Y): U.S. Patent No. 5,024,273 issued to Coone et al., on June 18, 1991, in view of any of references (1) through (7) above.

17. Prior Art Reference (17)—“Ehlinger et al.” (Ex. Z): U.S. Patent No. 5,411,095 issued to Ehlinger et al., on May 2, 1995, in view of any of references (1) through (7) above.

18. Prior Art Reference (18)—“Surjaatmadja et al.” (Ex. AA): U.S. Patent No. 5,533,571 issued to Surjaatmadja et al., on July 9, 1996, in view of any of references (1) through (7) above.

It is unclear whether Prior Art References (3) through (6) qualify as “printed publications” and are therefore proper references for a reexamination request under 37 C.F.R. § 1.501, et al. However, as Prior Art References (3) through (6) were included in the Patentee’s request for reexamination, and were therein mischaracterized by the Patentee, they have been included in this request in order to accurately portray their respective disclosures.

None of the prior art references (1) through (2), (4) through (7), and (9) through (18) above were of record during examination of the ’336 patent. Accordingly, each of these prior art references and/or combination of prior art references presents a substantial new question of patentability. Further, while Prior Art References (3) and (8) were made of record during the examination, these references were mischaracterized by the Applicants and not fully considered by the Examiner. Accordingly, the requester respectfully asserts that each of these prior art references, alone and/or in combination with other prior art references, also presents a substantial new question of patentability.

VI. DETAILED EXPLANATION OF PERTINENCE AND MANNER OF APPLYING THE CITED REFERENCES TO THE CLAIMS FOR WHICH REEXAMINATION IS REQUESTED

Although the pertinence of the cited references will be apparent from the following summaries, a full explanation of the application of these references to the claims is provided below in the form of a claim chart. Additionally, many of the following summaries include

representative figures from the references, some of which have been colorized and annotated to highlight the components corresponding to the claimed invention of the '336 patent.

A. Brief Descriptions of Cited References

1. Prior Art References (1) and (2)

Prior Art References (1) and (2) correspond to two SPE articles respectively entitled "Slimwells Without the Pain" and "Slimwell Concept—Innovative Coiled Tubing Completion Technology." Prior Art References (1) and (2) each disclose a liner running tool and a float collar/shoe assembly that were developed to overcome the problems associated with surge pressure while running a tubular string into "slim" wellbores. (See Ex. J at 1-2; Ex. K at 1-2.) The structure and operations of the float collar/shoe assembly is described, in part, as follows:

[O]nce the liner has reached the necessary setting depth, a ball is dropped which lands and seats on the sleeve retaining the shuttle valve in its circulation position and keeping the non-return valves open. Internal pressure is applied from surface and, at a predetermined pressure shear pins are activated which allow the shuttle valve to move to the closed position. The sleeve continues moving downwards where it is stored in a catcher sub. This process allows dual non-return valves to become active for the cementing operation.

(Ex. J at 3; Ex. K at 3.) The configuration and operation described above are illustrated and highlighted in the following figures from page 11 of Prior Art Reference (1):

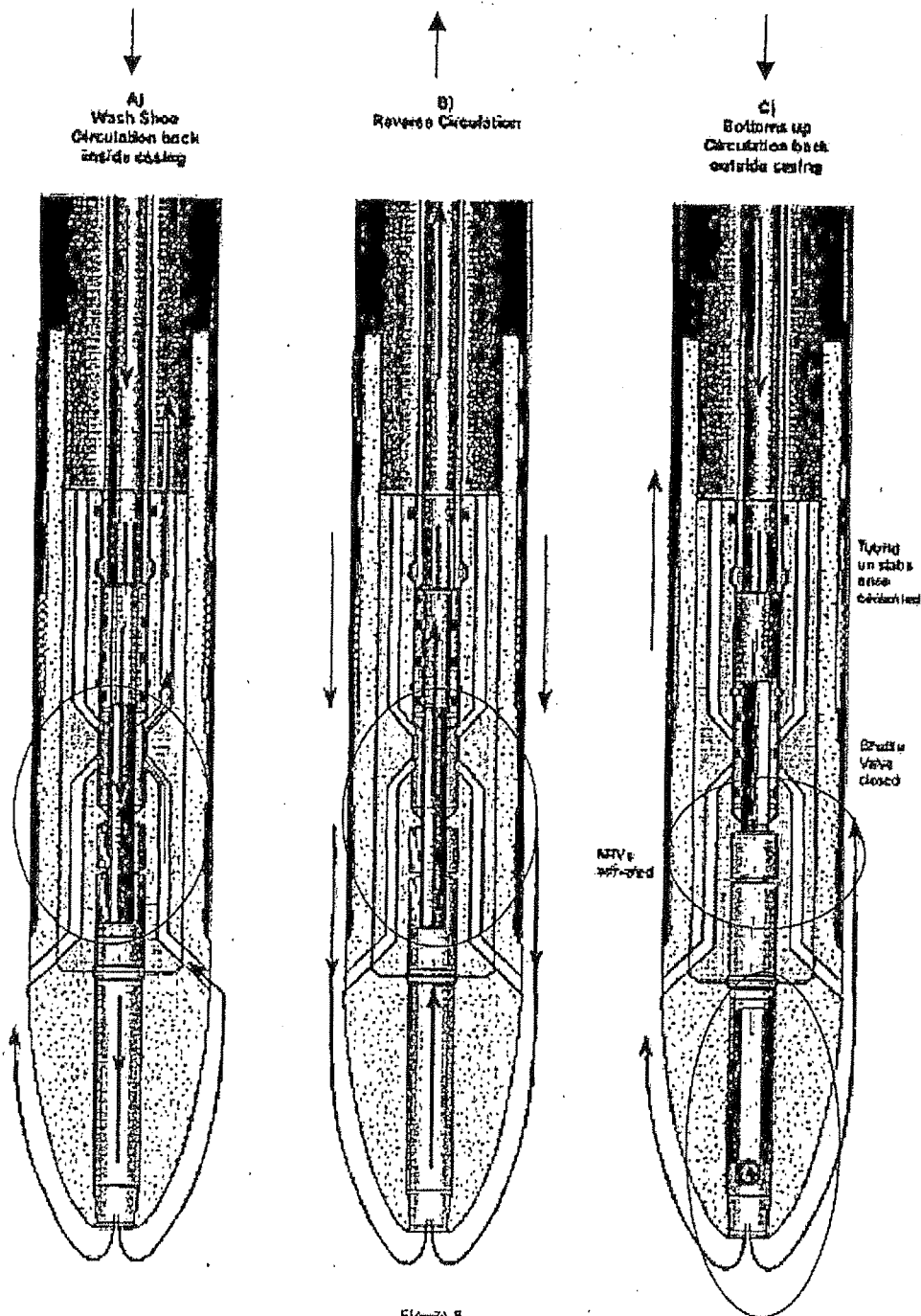


Figure 8
Circulation Modes and Valve Operation at the Shoe

As the description and the figures above demonstrate, Prior Art References (1) and (2) each independently disclose a float collar/shoe assembly comprising an *outer tubular member (shown in green)* connected to a tubular string, an *inner tubular member (shown in pink)* contained within the outer tubular, and *dual flapper valves (shown in yellow)* initially held open by the inner tubular member, and subsequently releasable to allow the flapper valves to close. The movement of the inner tubular member controls the flow of fluid through the tubular string by converting the float collar/shoe from a two-way flow mode during lowering to a one-way flow mode.

The movement of the inner tubular is accomplished by *dropping a ball (shown in blue)* from the surface. The ball lands within a ball seat formed into the inner tubular member. Fluid pressure acts on the ball to break shear pins and then move the inner tubular member from a first position to a second position, thereby manipulating the flow of fluid through the tubular string as described above. Moreover, Prior Art References (1) and (2) were designed for the express purpose of “preventing/controlling surge pressures, which the [Patentee’s] device seeks to resolve.” (Patentee’s Reexamination Request at 8.)

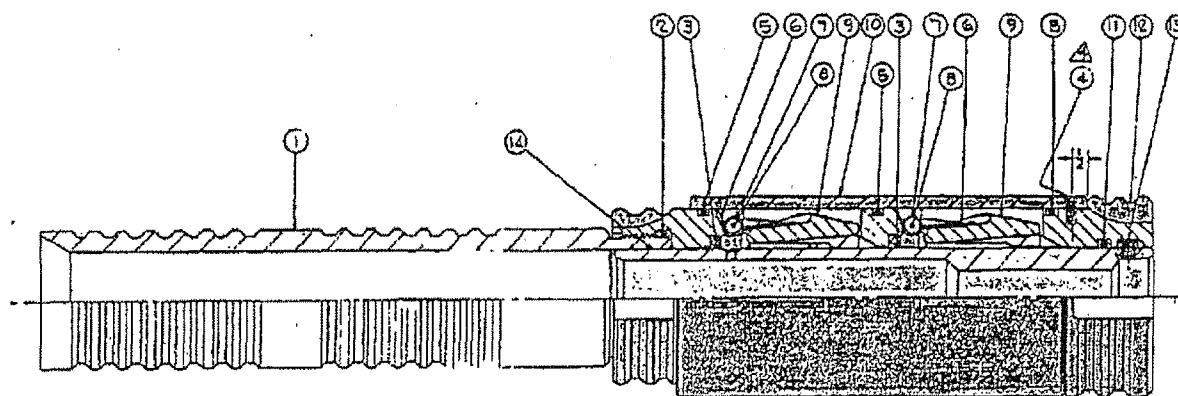
Prior Art References (1) and (2) independently contain each and every element of independent claims 1, 14, 33, and 43, arranged as stated in those claims. Prior Art References (1) and (2) also independently contain each and every element of dependent claims 2, 3, 5, 6, 7, 15, 16, 34, 35, 36, 37, 38, 39, 40, 41, 44, 45, 46, 48, 49, 50, and 53, arranged as stated in those claims.³ Accordingly, claims 1–3, 5–7, 14–16, 33–41, 43–46, 48–50, and 53 of the ’336 patent are anticipated by Prior Art References (1) and (2) and should be cancelled from the ’336 patent.

2. Prior Art Reference (3)

Prior Art Reference (3), entitled “Assembly for Flapper Valve Insert for Sub-Sea Re-entry Cement Float Shoe with TV Camera for XO-07238,” discloses a cement float shoe insert comprised of an *outer tubular member (shown in green)* affixed to a tubular string, an *inner tubular member (shown in pink)* positioned within the outer tubular member, and *two flapper valves (shown in yellow)* positioned between the inner tubular member and the outer tubular member. The inner tubular member is initially positioned within the outer tubular member and

³ Dependent claims 42 and 52 are ambiguous and cannot be construed or evaluated with respect to the prior art.

held in place with *shear screws (shown in purple)* such that it simultaneously extends through both flapper valves and maintains both in an open position. (See Ex. L (indicating in Assembly Instructions that, before use, the inner tubular member is inserted and assembled in place with shear screws within the outer tubular member as shown).) The inner diameter of the bore of the flapper valves and of the inner tubular would have been greater than two inches. (See Ex. BB (Declaration of David G. Calvert).)



In use, the cement float shoe insert of Prior Art Reference (3) would have aided in running a tubular casing string from a surface position into a wellbore, and thereafter would have been utilized to cement the tubular casing string in place. (See *id.*) Once the cement float shoe insert was attached to the tubular string, the entire assemblage would have been lowered into a wellbore. *Id.* at 12. As it was lowered, existing wellbore fluid would have flowed inwardly into the tubular string through the inner tubular member. *Id.* Because the flapper valves, when activated, permit fluid flow in only in a downward direction, it was necessary to hold the flapper valves in an open position while the assembly was being lowered. *Id.*

Once lowered to the correct depth, the inner tubular member of the cement float shoe insert would have been removed from contact with the two flapper valves such that the flapper valves would be activated to open in response to fluid flow away from the surface, but to remain closed in response to fluid flow toward the surface. *Id.* at 13. The inner tubular member would be removed by dropping a restriction device (i.e., a ball or dart) from the surface to the tubular.

Id. Pump pressure would thereafter be applied to the restriction device to break a shear member and remove the inner tubular member from the float shoe. *Id.*

During prosecution of the '336 patent, the Patentee acknowledged identification of Prior Art Reference (3) as a cement float shoe assembly and its "similarity [to the claimed device] of containing dual flapper valves." (Ex. D-6 (Second Amendment) at 25.) The Patentee later echoed these words in its parent '824 patent reexamination request:

[Prior Art Reference (3)] apparently disclose[s] a device somewhat similar to the device of the '824 patent by having a pair of flapper valves positioned between an inner tubular member and an outer tubular member. Further the inner tubular member is initially positioned such that it extends through the pair of flapper valves and maintains them in an open position. Still further the inner tubular member can be selectively moved to a second position thereby allowing the flapper valves to move to a closed position.

(Patentee's '824 Patent Reexamination Request at 7.)

However, despite these statements, the Patentee also claimed during '336 patent prosecution that Prior Art Reference (3) "is not analogous art" and that "[n]otwithstanding the similarity . . . , this reference does not teach, disclose, suggest *or even contemplate* the [Patentee's] device." (*Id.* at 8 (emphasis added).)

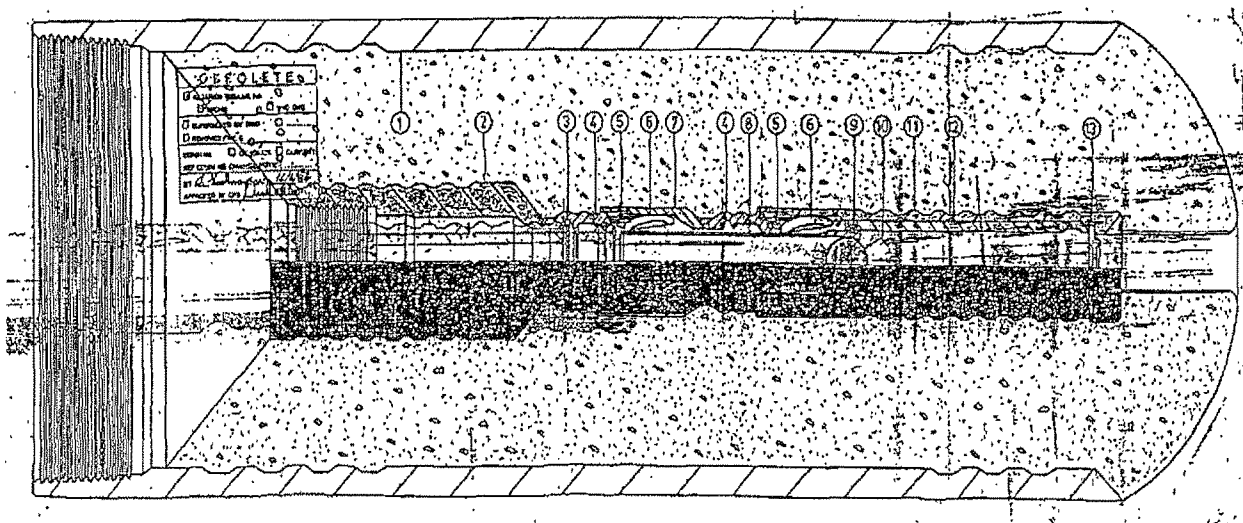
The Patentee argues that the tool in Prior Art Reference (3) is merely a "tool . . . for supporting a TV" to gain re-entry to a sub-sea wellbore—and not a tool to reduce surge pressures while running tubulars downhole. The Patentee's argument is misplaced. For the purpose of an anticipation analysis under 35 U.S.C. § 102, the only consideration is whether a prior art reference contains each and every element of the claim at issue, arranged as stated in the claim. *Sandt Tech. Ltd. v. Resco Metal & Plastics Corp.*, 264 F.3d 1344, 1350 (Fed. Cir. 2001). By the Patentee's own admission, Prior Art Reference (3) contains each and every key element of the '336 patent claims, arranged as stated in those claims. Accordingly, claims 1–3, 5–7, 14–16, 33–41, 43–46, and 48–53 are anticipated and therefore should be cancelled from the '336 patent.

Even if the Patentee's arguments as stated in the '336 prosecution history (and later repeated in the parent '824 patent reexamination request) were statutorily proper, they cannot be given any weight. For example, a TV camera is *not present* in Prior Art Reference (3); therefore, Patentee's statements regarding its configuration or any effect on the operability of the cement float shoe is pure conjecture. In any event, the function of a TV camera to navigate

through deep water and guide a float shoe to a wellbore location is peripheral to the function of the float shoe itself—to assist with running in and cementing a tubular string in the wellbore. In contrast, the statements in this reexamination request regarding the structure and operation of the tool disclosed in Prior Art Reference (3) are supported by expert testimony and therefore are entitled to greater deference. (*See* Ex. BB (Declaration of David G. Calvert).)

3. Prior Art Reference (4)

Prior Art Reference (4), entitled “Proposed 24 ½ O.D. Stab-In Circulating Flexifill with Double Flapper Valve & Captive Ball (F/BP),” discloses a cement float shoe comprising *two flapper valves (shown in yellow)* contained within an *outer tubular assembly (shown in green)*. An *inner tubular member (shown in pink)* extends through and covers the bores of both flapper valves to maintain the flapper valves in the open position. As illustrated, the inner tubular member is held in place by *shear pins (shown in purple)*. In its first position the inner tubular member prevents the flapper valves from operating during lowering of the tubular string, thereby allowing fluid to flow in both directions through its bore. (*See id.*) The inner diameter of the bore of the flapper valves and of the inner tubular would have been greater than two inches, and the inner diameter of the work string would allow a restriction device of greater than two inches in diameter to be utilized. (*See id.*)



In use, the cement float shoe disclosed in Prior Art Reference (4) is attached to a tubular casing string. *Id.* at 19. Once attached, the apparatus generally aids in running the tubular string from a surface position into a wellbore, and thereafter in cementing the tubular string within the wellbore. *Id.* More particularly, once the cement float shoe disclosed in Prior Art Reference (4) is attached to the tubular string, the entire assemblage is lowered into the wellbore. *Id.* at 20. As it is lowered, wellbore fluid flows inwardly into the tubular string through the inner tubular. (*Id.*) As the flapper valves, when activated, permit fluid flow only in a downward direction, it is necessary to hold the flapper valves in an open position while the assembly is being lowered. *Id.*

Once lowered to the correct depth, the inner tubular is removed from contact with the two flapper valves such that the flapper valves are activated to open in response to a flow of fluid away from the surface, but to remain closed in response to fluid flow toward the surface. *Id.* at 21. The inner tubular is removed by dropping a *restriction device (i.e., a ball or dart) (shown in blue)* from the surface to the inner tubular. *Id.* at 22. This is the point in time illustrated in the Figure above—after the ball is seated, just before or during the initial stages of applying fluid pressure, before shear pressure is reached, and thus before the inner tubular moves downward to release the flapper valves. Pump pressure is then applied to the restriction device to break a shear member and to remove the inner tubular from the float shoe. *Id.* Alternatively, the restriction device may be mounted adjacent to the inner tubular member while on the surface, and the entire assembly may then be lowered to the desired depth with the restriction member in place. *Id.* Pump pressure would then be applied to dislodge the restriction device and remove the inner tubular. *Id.*

The Patentee, in its own reexamination request, describes the disclosures of Prior Art Reference (4) as follows:

[Prior Art Reference (4)] apparently discloses a pair of flapper valves 6 positioned between an inner tubular member 8 and an outer tubular member. The inner tubular member is initially positioned such that it apparently extends through the pair of flapper valves and maintains them in an open position. The inner tubular member may be selectively moved to a second position thereby allowing the flapper valves to move to a closed position.

Patentee's '336 Reexamination Request at 7. Despite this statement, the Patentee claims that Prior Art Reference (4) "is non-analogous art." *Id.*